IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 4 and 8 without prejudice or disclaimer.

Please AMEND claims 1, 3, 5, 7 and 9-12 and ADD new claims 19-20 in accordance with the following:

1. (CURRENTLY AMENDED) An optical transmission device comprising:

a WDM port as a port for transmission and reception of a wavelength-multiplexed signal; and

a wavelength multiplex/demultiplex unit, the wavelength multiplex unit ~~including~~ comprising:

a plurality of optical filters #1, #2, ..., #n which are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with a wavelength-dependent loss characteristic, and each of the plurality of optical filters has a function of a band-pass filter and an identical insertion loss;

said wavelength multiplex/demultiplex unit further comprising an OSC filter through which separation or insertion of an OSC signal for maintenance control is performed comprising:

in transmitting the wavelength-multiplexed signal containing main signals in n channels arranged in a wavelength range and the OSC signal, comprising:

when the optical filter #k ($2 \le k \le n$) receives a signal in the channel number k at a predetermined wavelength from an inside of the optical transmission device, the optical filter #k allows the signal in the channel number k to pass through the optical filter #k, reflects the signals in the channel numbers k+1, k+2, ..., n sent from the optical filters #k+1, #k+2, ..., #n and sends the signals in the channel numbers k, k+1, k+2, ..., n to the optical filter #(k-1),

when the optical filter #1 receives a signal in the channel number 1, the optical filter #1 allows the signal in the channel number 1 to pass through the optical filter #1, reflects the signals in the channel numbers 2, 3, ..., k, ..., n sent from the optical filters #2, #3, ..., #k, ..., #n and sends the main signals in the channel numbers 1, ..., n to the OSC filter, and

when the OSC filter receives the main signals in the channel numbers 1,

..., n, the OSC filter allows the main signals sent from the optical filter #1 to pass through the OSC filter and reflects the OSC signal that is generated by an inside unit of the optical transmission device, so that the main signals and the OSC signal are multiplexed to generate the wavelength-multiplexed signal that is transmitted through the WDM port, and

in receiving the wavelength-multiplexed signal containing main signals in n channels arranged in a wavelength range and the OSC signal, comprising:

when the OSC filter receives the wavelength-multiplexed signal entered through the WDM port, the OSC filter reflects the OSC signal to monitor, allows the main signals to pass through the OSC filter and sends the main signals to the optical filter #1,

when the optical filter #1 receives the main signals, the optical filter #1 allows main signals in only one of the channels at a predetermined wavelength to pass through the optical filter #1, and reflects the remaining main signals in the other (n-1) channels, and

when the optical filter #k $(2 \le k \le n)$ receives the reflected main signals in the (n-(k-1)) channels, the optical filter #k allows main signals in only one of the (n-(k-1)) channels at another predetermined wavelength to pass through the optical filter #k and reflects the remaining main signals in the other (n-(k-1)-1) channels, so that main signals in the channels at predetermined wavelengths are demultiplexed.

2. (CANCELED)

3. (CURRENTLY AMENDED) The optical transmission device according to claim 1, ~~wherein~~ comprising when a curve of said wavelength-dependent loss characteristic has an extreme value and shows decrease in loss with increase in wavelength in a first wavelength range in which the gradient of the curve is negative and increase in loss with increase in wavelength in a second wavelength range in which the gradient of the curve is positive,

said plurality of optical filters are arranged in such a manner that signals to be demultiplexed first pass through ones of said plurality of optical filters corresponding to wavelengths in one of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic, and then through other ones of said plurality of optical filters corresponding to wavelengths in another of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic.

4. (CANCELED)

5. (CURRENTLY AMENDED) An optical transmission system comprising:

an optical transmission line as a transmission medium of a wavelength-multiplexed signal;

a first optical transmission device being connected to an end of said optical transmission line, and comprising a ~~first~~ wavelength multiplex~~/demultiplex~~ unit ~~comprises~~ comprising:

a plurality of first optical filters #1, #2, ..., #n which are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with a wavelength-dependent loss characteristic, and each of the plurality of first optical filters has a function of a band-pass filter and an identical insertion loss[[;]], and

a first OSC filter through which insertion of an OSC signal for maintenance control is performed; and

a second optical transmission device being connected to another end of said optical transmission line, and comprising a ~~second~~ wavelength ~~multiplex/~~demultiplex unit comprising:

~~comprises~~ a plurality of second optical filters #1, #2, ..., #n which are provided in correspondence with a plurality of wavelengths, are daisy-chain connected, and have a loss characteristic weighted at the plurality of wavelengths in correspondence with said wavelength-dependent loss characteristic, and each of the plurality of second optical filters has a function of a band-pass filter and an identical insertion loss[[;]], and

a second OSC filter through which separation of the OSC signal, and

in transmitting the wavelength-multiplexed signal containing main signals in n channels arranged in a wavelength range and the OSC signal at the wavelength multiplex unit, comprising:

when the first optical filter #k ($2 \le k \le n$) receives a signal in the channel number k at a predetermined wavelength from an inside of the first optical transmission device, the first optical filter #k allows the signal in the channel number k to pass through the first optical filter #k, reflects the signals in the channel numbers k+1, k+2, ..., n sent from the first optical filters #k+1, #k+2, ..., #n and sends the signals in the channel numbers k, k+1, k+2, ..., n to the first optical filter #(k-1),

when the first optical filter #1 receives a signal in the channel number 1, the first optical filter #1 allows the signal in the channel number 1 to pass through the first optical filter #1, reflects the signals in the channel numbers 2, 3, ..., k, ..., n sent from the first optical filters #2, #3, ..., #k, ..., #n and sends the main signals in the channel numbers 1, ..., n to the first

OSC filter, and

when the first OSC filter receives the main signals in the channel numbers 1, ..., n, the first OSC filter allows the main signals sent from the first optical filter #1 to pass through the first OSC filter and reflects the OSC signal that is generated by an inside unit of the first optical transmission device, so that the main signals and the OSC signal are multiplexed to generate the wavelength-multiplexed signal that is transmitted, and

in receiving the wavelength-multiplexed signal containing main signals in n channels arranged in a wavelength range and the OSC signal at the wavelength demultiplex unit, comprising:

when the second OSC filter receives the wavelength-multiplexed signal, the second OSC filter reflects the OSC signal to monitor, allows the main signals to pass through the second OSC filter and sends the main signals to the second optical filter #1,

when the second optical filter #1 receives the main signals, the second optical filter #1 allows main signals in only one of the channels at a predetermined wavelength to pass through the second optical filter #1, and reflects the remaining main signals in the other (n-1) channels, and

when the second optical filter #k ($2 \le k \le n$) receives the reflected main signals in the (n-(k-1)) channels, the second optical filter #k allows main signals in only one of the (n-(k-1)) channels at another predetermined wavelength to pass through the second optical filter #k and reflects the remaining main signals in the other (n-(k-1)-1) channels, so that main signals in the channels at predetermined wavelengths are demultiplexed.

6. (CANCELED)

7. (CURRENTLY AMENDED) The optical transmission system according to claim 5, ~~wherein~~ comprising when a curve of said wavelength-dependent loss characteristic has an extreme value and shows decrease in loss with increase in wavelength in a first wavelength range in which the gradient of the curve is negative and increase in loss with increase in wavelength in a second wavelength range in which the gradient of the curve is positive,

said plurality of optical filters in each of said first and second wavelength multiplex/demultiplex units are arranged in such a manner that signals to be demultiplexed first pass through ones of said plurality of optical filters corresponding to a plurality of wavelengths in one of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic, and then through other ones of said plurality of optical filters

corresponding to a plurality of wavelengths in another of said first and second wavelength ranges in decreasing order of said wavelength-dependent loss characteristic.

8. (CANCELED)

9. (CURRENTLY AMENDED) The optical transmission system according to claim 5, ~~wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing,~~ comprising each of said ~~first and second~~ wavelength multiplex/demultiplex units has a loss characteristic which compensates for half of said wavelength-dependent loss characteristic so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

10. (CURRENTLY AMENDED) The optical transmission system according to claim 5, comprising ~~wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing,~~ said ~~first~~ wavelength multiplex~~/demultiplex~~ unit has a first loss characteristic which compensates for a first wavelength-dependent loss characteristic of a first section of the optical transmission line between said first optical transmission device and a midpoint of the optical transmission line, and said ~~second~~ wavelength ~~multiplex/~~demultiplex unit has a second loss characteristic which compensates for a second wavelength-dependent loss characteristic of a second section of the optical transmission line between said midpoint and said second optical transmission device, so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

11. (CURRENTLY AMENDED) The optical transmission system according to claim 5, comprising ~~wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing,~~ said ~~first~~ wavelength multiplex~~/demultiplex~~ unit has a loss characteristic which compensates for said wavelength-dependent loss characteristic of the optical transmission line, and said ~~second~~ wavelength ~~multiplex/~~demultiplex unit has a flat loss characteristic which shows identical loss levels at all wavelengths used in transmission, so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed,

and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

12. (CURRENTLY AMENDED) The optical transmission system according to claim 5, comprising ~~wherein when said first wavelength multiplex/demultiplex unit performs wavelength multiplexing, and said second wavelength multiplex/demultiplex unit performs wavelength demultiplexing,~~ said ~~first~~ wavelength multiplex~~/demultiplex~~ unit has a flat loss characteristic which shows identical loss levels at all wavelengths used in transmission, and said ~~second~~ wavelength ~~multiplex/~~demultiplex unit has a loss characteristic which compensates for said wavelength-dependent loss characteristic of the optical transmission line, so that differences among different channels in loss caused by transmission of a wavelength-multiplexed signal are suppressed, and loss levels in the different channels in the wavelength-multiplexed signal are equalized.

13.-18. (CANCELED)

19. (NEW) An optical transmission device comprising:

an OSC filter through which separation or insertion of an OSC signal is performed and transmitting a wavelength-multiplexed signal containing main signals in n channels arranged in a wavelength range and the OSC signal, comprising:

upon an optical filter #k ($2 \leq k \leq n$) receiving a signal in a channel number k at a predetermined wavelength from an inside of the optical transmission device, the optical filter #k allows the signal in the channel number k to pass through the optical filter #k, reflects signals in channel numbers k+1, k+2, ..., n sent from optical filters #k+1, #k+2, ..., #n and sends the signals in the channel numbers k, k+1, k+2, ..., n to optical filter #(k-1), and

upon the OSC filter receiving the main signals in the channel numbers 1, ..., n, the OSC filter allows the main signals sent from optical filter #1 to pass through the OSC filter and reflects the OSC signal that is generated by an inside unit of the optical transmission device, so that the main signals and the OSC signal are multiplexed to generate the wavelength-multiplexed signal that is transmitted through the WDM port.

20. (NEW) The optical transmission device according to claim 19, further comprising the OSC filter in receiving the wavelength-multiplexed signal containing main signals in n channels arranged in a wavelength range and the OSC signal, comprising:

upon the OSC filter receiving the wavelength-multiplexed signal entered through

the WDM port, the OSC filter reflects the OSC signal to a monitor, allows the main signals to pass through the OSC filter and sends the main signals to optical filter #1, and

upon optical filter #k ($2 \le k \le n$) receiving the reflected main signals in (n-(k-1)) channels, the optical filter #k allows main signals in only one of the (n-(k-1)) channels at another predetermined wavelength to pass through the optical filter #k and reflects remaining main signals in the other (n-(k-1)-1) channels, so that main signals in the channels at predetermined wavelengths are demultiplexed.